

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/052421

International filing date (day/month/year)
04.10.2004

Priority date (day/month/year)
06.10.2003

International Patent Classification (IPC) or both national classification and IPC
B01J19/00

Applicant
SOLVIAS AG

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

10/574857
IAPO Rec'd PCT/PTO 06 APR 2006
International application No.
PCT/EP2004/052421

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/052421

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-10
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: WO 03/026797 A2

D2: WO 01/51919 A2

D3: WO 02/052919 A2

D4: R. HILFIKER ET AL.: "Polymorphism-integrated approach from high-throughput screening to crystallization optimization" JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, vol. 73, no. 2, 2003, pages 429-440.

D5: WO 00/60345 A1

2. D1-D4 disclose methods for the generation and detection of crystallizing compounds using arrays of vessels (e.g. micro-titre plates) so that high-throughput screening of different parameters may be assessed and the properties of the resulting solid forms may be analysed in parallel. Among the possible starting solutions for the solid form, the documents disclose the use of solvates and amorphous forms in, for example, saturated or supersaturated solutions. After the crystallization is carried out, the array plate comprise a variety of solid-forms which may then be identified and related to the parameters being studied. D1 also discloses devices for carrying out such methods comprising flow-through seals connected to one or more gas sources or vacuum pumps. D1-D4 also disclose apparatus comprising arrays of vessels, means for heating/cooling, stirring and means for detecting (e.g. Raman spectroscopy) the resulting solid forms. (See passages cited in the International Search Report.)

D5 discloses methods of screening and analysing crystal growth conditions. The method comprises the use of a microarray of vessels comprising heating/cooling means as well as means for stirring the samples. Once the crystallisation has been carried out the array of solid-forms (e.g. amorphous) are analysed using, for example, microscopy. (See passages cited in the International Search Report.)

Therefore, the subject-matter of claims 1-10 is not novel and does not fulfill the requirements of Article 33(2) PCT.

3. The applicant's attention is drawn to the fact that high-throughput screening of crystallization conditions and compositions is well known in the art, as the cited documents illustrate.

Re Item VII

Certain defects in the international application

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D3-D5 is not mentioned in the description, nor are these documents identified therein.

Re Item VIII

Certain observations on the international application

1. In claim 1, the feature "... the solutions of amorphous compounds [...] corresponding crystalline compound." attempts to define the subject-matter in terms of the result to be achieved, it does not contain any technical features (elements of the solution) necessary for achieving the result (Article 6 PCT). The same objection applies to claims 3-5.
2. The last paragraph of claim 10 does not contain any features that further characterise the apparatus (Article 6 PCT).